

Implementing a Community-Based Exercise (CBE) Intervention with Adults Living with HIV: Updates from the CBE Study

Kelly O'Brien & Rachel Aubry
University of Toronto

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Neda Mortaji



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Background



- Increasing number of adults aging with HIV and multi-morbidity
 - Disability – multidimensional and potentially episodic
- **Community-based exercise (CBE)**
 - Safe and effective strategy to reduce disability and enhance health outcomes for people with chronic and episodic conditions.
 - Systematic review evidence – aerobic and resistive exercise (or combination) is safe and beneficial for improving cardiopulmonary, strength, weight and body composition, and quality of life outcomes for adults with HIV.
 - However, way in which it translates to ‘real world’ is unknown.



Overall CBE Study Aims



- 1) To **evaluate the translation of a community-based exercise (CBE) intervention** with the goal of reducing disability and enhancing health among adults living with HIV.

- 2) To **further assess the measurement properties of the HIV Disability Questionnaire (HDQ);**
 - Interpretability (cross-sectional meaning of HDQ scores and minimal clinically important difference);
 - Responsiveness (ability to detect change in disability when it occurs) with adults living with HIV.

Other Related Research on CBE in HIV



Open Access

Protocol

BMJ Open Evaluating a community-based exercise intervention with HIV: protocol for series study

Kelly K O'Brien,^{1,2,3} Ahmed M Bayou,⁴
Kate Murzin,⁷ Soo Chan Carusone,⁸
Aileen M Davis^{1,2,3,10}

Community-Based Exercise in the Context of HIV: Factors to Consider when Developing and Implementing Community-Based Exercise Programs for People Living with HIV

Anna Li, MSc^{1,2}, Taylor McCabe, MScPT¹, Erin Silverstein, MFSc, MScPT¹,
Stephanie Dragan, MScPT¹, Nancy M. Salbach, BScPT, MSc, PhD^{1,3},
Mehdi Zobeiry⁴, Sarah Beldick⁴, Chris Godi⁵, and Kelly K. O'Brien, BSc, BScPT, PhD^{1,3,6}

<http://bmjopen.bmj.com/conten>

Open Access

Research

[/doi/full/10.1177/2325957416686836](http://doi/full/10.1177/2325957416686836)

BMJ Open Experiences participating in a community-based exercise program from the perspective of people living with HIV: a qualitative study

Chantal A Montgomery,¹ Katherine J
Tamar B Kideckel,¹ Cheryl F M Yang

Open Access

Research

BMJ Open Are you ready? Exploring readiness to engage in exercise among people living with HIV and multimorbidity in Toronto, Canada: a qualitative study

Alya Simonik,¹ Kyle Vader,¹ Denine Ellis,¹ Dirouhi Kesbani,¹ Priscilla Leung,¹
Patrick Jachyra,² Soo Chan Carusone,³ Kelly K O'Brien^{1,2,4}

<http://bmjopen.bmj.com/content/7/>

<http://bmjopen.bmj.com/content/6/3/e010029>



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Objectives for Today...



- 1) To explore motivating factors, goals and expectations among adults living with HIV prior to engaging in a CBE intervention
 - Qualitative sub-study

- 2) To determine the extent to which adults with HIV participate in a CBE intervention
 - Progress to date



Study Design

Interrupted time series

The “Interruption”

Aerobic exercise

- 3 days/week, 60-70% HR maximum, at least 30 min with variation in type based on participant choice

Resistance exercise

- Resistance training for each major muscle group (~8-10 exercises), 3X per week, 60-70% 1 repetition maximum (1RM), 10-12 reps each

Flexibility

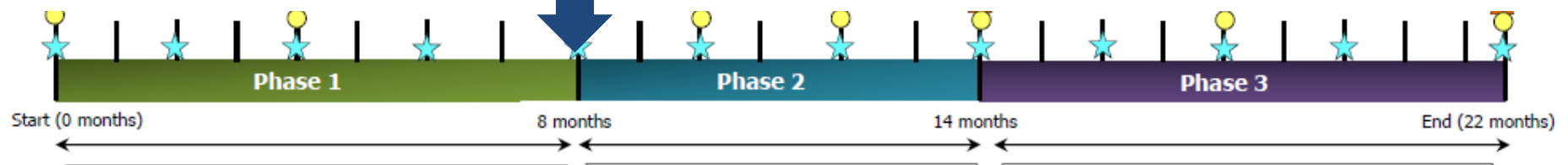
- Stretching major muscle-tendon groups 10-30 seconds with 2 repetitions each

Neuromotor / Balance exercise

- Range of motor skills (e.g. balance, coordination, agility, gait) for approximately 20-30min.

****Individual and/or group-based exercise (classes)****

Weekly progression as tolerated



Baseline Monitoring Phase

CBE Intervention

YMCA Membership
Exercise 3X/week
(supervised weekly)
Fitbit Zip

Follow-Up Monitoring Phase

YMCA Membership
Exercise 3X/week (independent)

Monthly In-Person Education Sessions

https://www.youtube.com/playlist?list=PLC7sbi41p_oTr7B7n7oVOYriA_CS6MpM



Participants and Recruitment



Participants

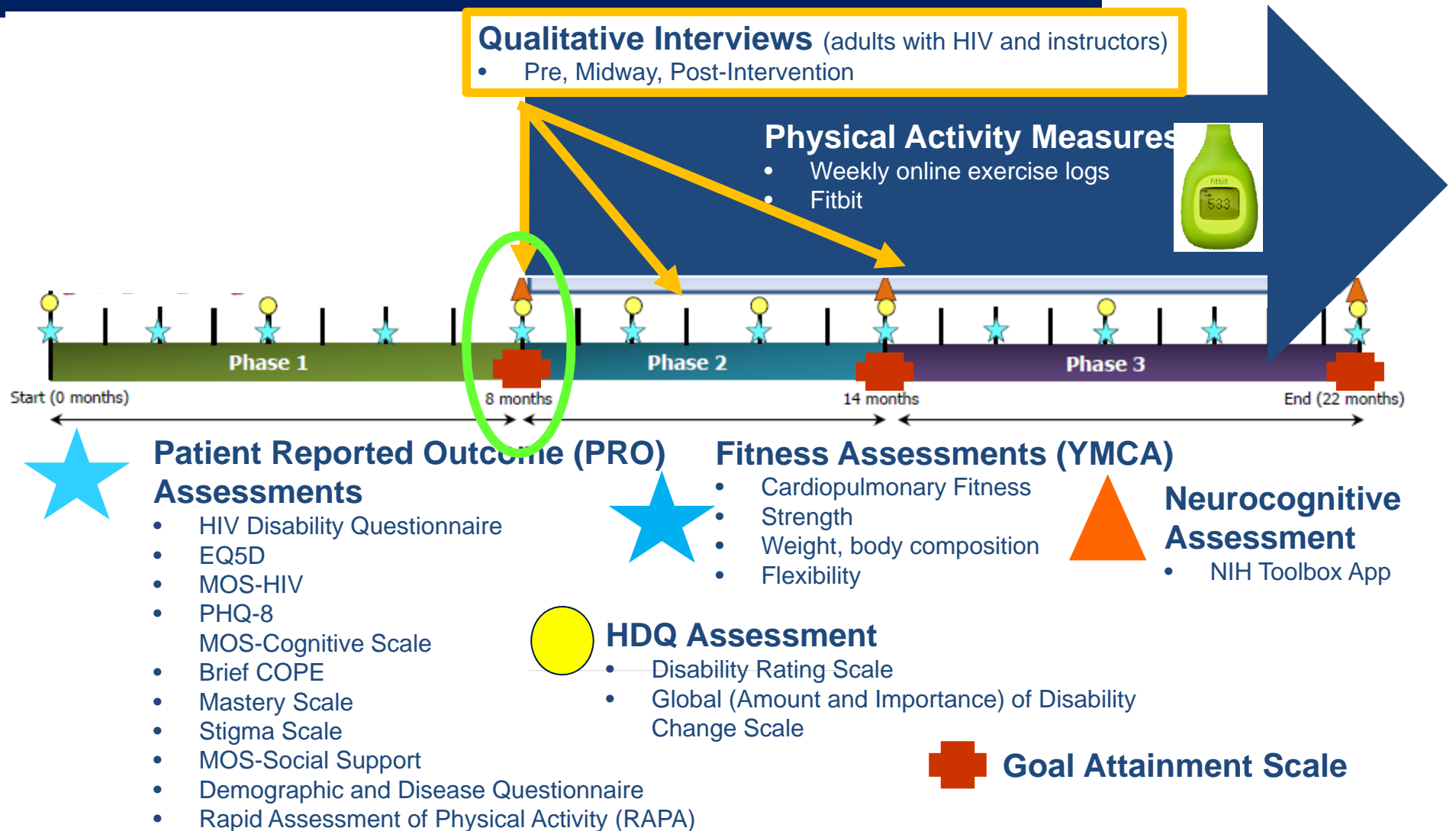
- Adults (18 years and older) living with HIV in Toronto
- Considered selves medically stable and safe to engage in exercise
 - Physical Activity Readiness Questionnaire (PAR-Q)
- Willing to participate in the 22 month study and CBE intervention at YMCA

Recruitment

- Pilot participants;
- Community based organizations and clinics
 - AIDS Committee of Toronto (ACT), Women's HIV/AIDS Initiative, Asian Community AIDS Services (ACAS), Toronto People With AIDS (PWA) Foundation, Casey House, Africans in Partnership Against AIDS (APPA), Family Service Toronto, Maple Leaf Medical Clinic, Mount Sinai, Women's Health in Women's Hand, Circle of Life, PASAN
- YMCA
- Word of mouth
 - via posters, brochures, recruitment cards



Data Collection





Objective #1 – Motivating Factors



Baseline Qualitative Interviews



Goal: To explore motivating factors, goals and expectations among adults living with HIV prior to engaging in the CBE intervention.

Participants

- Adults (18 years and older) living with HIV in Toronto

Interview Guide

- A) experience with exercise
- B) goals, expectations of anticipated benefits of participating in upcoming intervention
- C) any concerns or perceived challenges prior to starting the intervention.

Analysis

Content thematic analysis

Interview CBE Participants

Characteristics	N=15 (%)
Gender	
Men	11 (73%)
Women	4 (27%)
Median Age (years) (IQR)	48 (25, 70)
Median Year of Diagnosis (IQR)	2006 (1986, 2015)
Currently Taking Antiretrovirals (ARVs)	15 (100%)
Viral Load Undetectable	11 (73%)
Partnership Status	
Married or Common Law	4 (27%)
Single, Separated or Divorced	10 (67%)
Lived Alone	7 (47%)
Employment Status	
Working, volunteering or student	7 (47%)
On Disability Support or Not Working	6 (40%)
Retired	2 (13%)
Household Income per year (CAD) <\$40,000	12 (80%)
Common Concurrent Conditions	
Joint Pain (arthritis)	8 (53%)
Mental Health Condition (e.g. anxiety, depression)	6 (40%)
Muscle Pain	5 (33%)
Self-Reported Exercise Prior to CBE Study	
Not engaging in exercise	5 (33%)
Exercised regularly in the past but no longer	4 (27%)
Exercise but not regularly	3 (20%)
Exercise regularly	3 (20%)

Determinants to Initiating Engagement in CBE

Motivating Factors

- Individualized approach
- Access to one-on-one trained fitness instructors
 - Access to 'free' YMCA membership
- **Preferences for Independent versus Opportunities for Social Interaction:** sense of support from others in the study.
 - Offered a 'new start' to change lifestyle

"I understand regular exercise can make you less depressed or put you in a better mood...that would be good to happen... and it would also give me more of a routine..." [P108; Man, >60 years of age]



Goals with Exercise

To improve...

- mental health (mood, depression)
- emotional health (reducing isolation, loneliness)
- physical health (decreasing pain, fatigue, weight)

"I'm not in the program to try to reverse it [aging] but I'm in the program to try to slow it down" [P108, Man; >60 years of age]



Determinants to Initiating Engagement in CBE

Anticipated or Expected Health Benefits with Exercise

- Benefits to mental health closely linked to routine, reducing fatigue, and sleep health
 - Decrease depressive episodes
- Ability to learn from fitness instructor staff and study team

Looking Forward to Structure and Routine

associated with the intervention with optimism and enthusiasm

- Accountability to the fitness instructor
 - Level of commitment
- Good intentions to adhere with intervention
 - **Sense of Optimism – a new start**

“Beginning with the coaching person, I think that will help me to start something that’s structure...something regular...”
[P026; Woman; >40 years of age]

Anticipated Concerns and Potential Barriers with Exercise Intervention

- Ability to adhere to the thrice weekly exercise among work and family commitments, fluctuations in health (emotional and physical)
 - Inclement weather
- Despite probing, some did not express concerns – focused on positive outlook

“I feel really committed...I’m not going into it with the attitude that I might start missing” [P108; Man, >60 years of age]





Objective #2 – Engagement in CBE Study



Reached for CBE Study - 1035 - Known # of community members

Expressed Interest - 498/1035 (48%) (Contacting Coordinator)

Screened for Eligibility - 120/498 (24%)

59/120 (49%) PAR-Q 'Flagged' asked to consult physician about participating in study

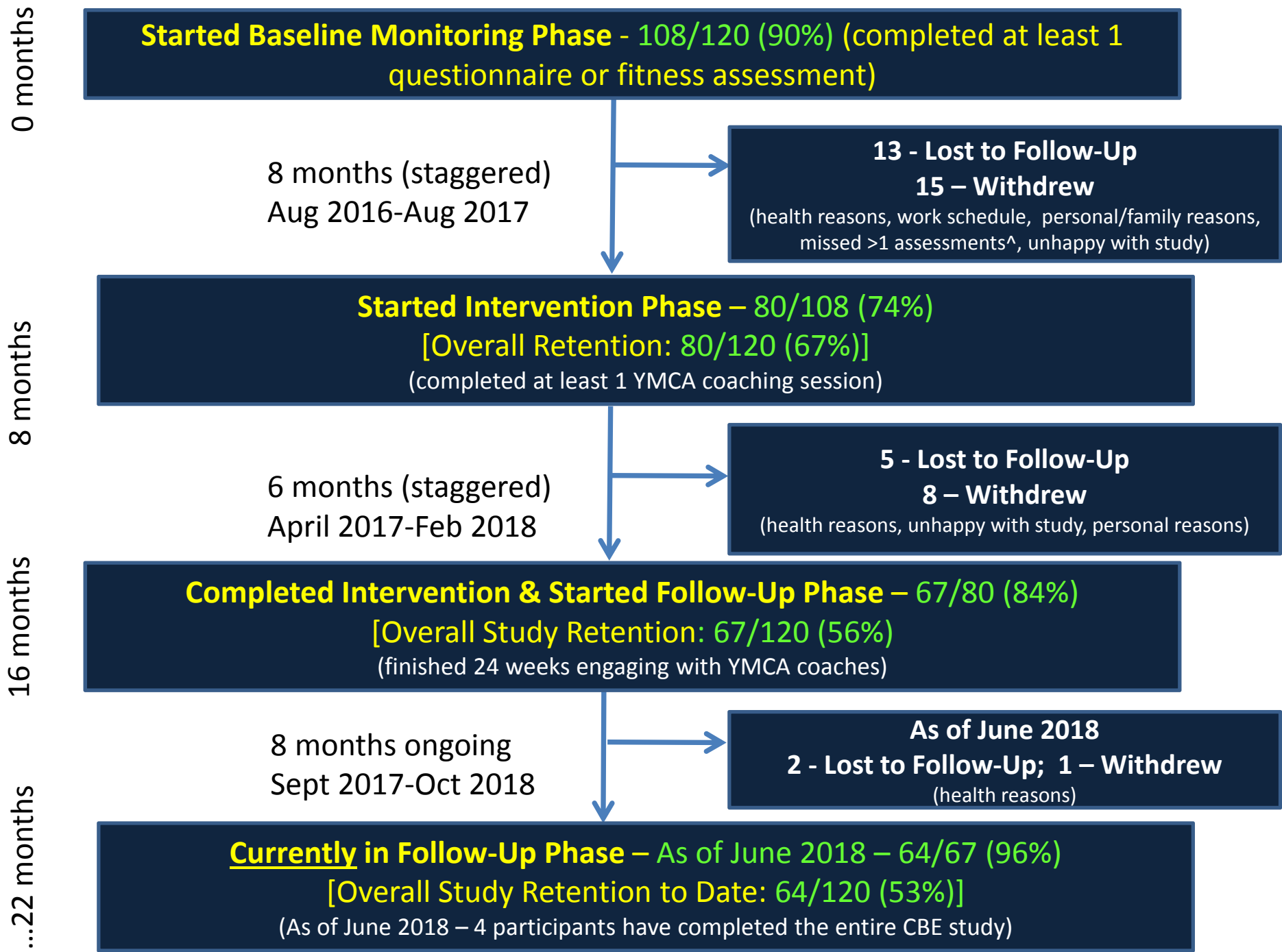
59/59 (100%) confirmed eligibility to participate in CBE study

Eligible and Consented to Enrol in the study- 120/120 (100%)

**3 Lost to Follow-Up
9 Withdrew**
(health reasons; work/life balance, unhappy with study, personal/family reasons)

Started Baseline Monitoring Phase - 108/120 (90%) (completed at least 1 questionnaire or fitness assessment)

0 months



#1 - Characteristics of CBE Participants

Characteristic	At Baseline (n=108) N (%)	At CBE Initiation (n=80)	At CBE Completion (n=67)
Median Age (IQR)	51 years (45, 59)	51 years (45, 60)	52 years (46, 60)
≥50 years	53 (58%)	42 (61%)	37 (64%)
Men	94 (87%)	72 (90%)	59 (88%)
Women	11 (10%)	6 (8%)	6 (8%)
Two-Spirited or Inter-sexed	<5 (5%)	<5 (6%)	<5 (3%) (7%)
Median Number of comorbidities (IQR)	4 (2,7)	4 (2,7)	4 (2,7)
Living with ≥2 comorbidities	86 (80%)	65 (81%)	55 (82%)
Common Comorbidities (>30%) included:			
Mental Health (e.g. depression, anxiety)	52 (49%)	36 (46%)	31 (47%)
Joint Pain (arthritis)	44 (41%)	34 (43%)	29 (43%)
Bone and Joint Disorder (osteopenia, osteoporosis, osteoarthritis)	39 (36%)	31 (39%)	25 (38%)
Muscle Pain	39 (36%)	28 (35%)	25 (38%)
Live Alone	73 (71%)	51 (68%)	43 (68%)
Gross Yearly Income \$<20,000	57 (53%)	38 (48%)	31 (47%)
Employed Full-Time or Part-Time	34 (31%)	28 (35%)	21 (31%)
Median Year of Diagnosis (IQR)	1999 (1989, 2008)	1998 (1989,2008)	1995 (1988, 2007)
Exercise History at Enrolment			
I currently exercise and have done so for > 6 months	36 (33%)	27 (34%)	25 (37%)

- **Median # of comorbidities (IQR) 4 (2,7)**
- **80-82% were living with ≥2 concurrent conditions**
- **Mental health conditions – most prevalent comorbidity**

Lessons Learned to date – CBE Team Reflections

Implementation Science Approach

Episodic Exercise with Episodic Life

- Range of reasons for missing coaching sessions, assessments.
- Flexibility of our intervention timeline ('extended intervention phase')

Research Procedure and Intervention Intertwined

- Research Protocol (staff) intertwined with the intervention.
- Assessments involve ongoing interaction with research and YMCA staff
 - potential source of social support beyond the 'pure' CBE intervention.
 - potential influencing and motivating factor to engage and retain participants in exercise.

HIV Disclosure & Stigma

- Concerns of residual disclosure with a longitudinal study design (22 months)
 - participants attending same facility repeatedly - potential to identify other YMCA members who are participants.
- Motivating factor for some to enrol (non-HIV specific organization).

Summary & Conclusions

Motivating Factors for Engaging in CBE Study / Intervention

- Engaging in CBE - motivated by a number of individualized contextual factors.

Structure and routine with a formalized CBE intervention can offer strategies to maximize control over health when living with an episodic illness.

- CBE intervention viewed as a positive strategy
 - opportunity to **take control over and improve one's health.**

No One-Size Fits All Approach – Diverse preferences for CBE format (desire to exercise independently versus as an organized group or with a partner).

CBE Study Progress to Date

- Overall 53% retention rate in the study
- Of those who initiated CBE intervention, **84% completed.**
- Note all were 'ready' to exercise.
- Data collection and analysis is ongoing



Next Steps



- Finish data collection (follow-up phase) – November 2018
- Analysis
 - Quantitative
 - CBE intervention
 - HDQ interpretability and responsiveness
 - Qualitative data
 - Pre (T1), midway (T2), Post (T3) intervention
 - 6 focus groups (post educational sessions)
- Ongoing knowledge translation and exchange (KTE)



CBE Study Team



RESEARCH TEAM

Kelly O'Brien

University of Toronto

Patty Solomon

McMaster University

Ahmed Bayoumi

St. Michael's Hospital

Aileen Davis

University Health Network

Ada Tang

McMaster University

Sean Rourke

St. Michael's Hospital

RESEARCH COORDINATOR & TRAINEES

Rachel Aubry

Neda Mortaji

Matthieu Dagenais

KNOWLEDGE USERS & COLLABORATORS

COMMUNITY ADVISORY COMMITTEE

Mehdi Zobeiry

Central Toronto YMCA

Ken King

Community Member

Chris Godi

Toronto PWA Foundation

James Murray

*Ontario Ministry of Health and Long-Term Care,
AIDS Bureau*

Kate Murzin

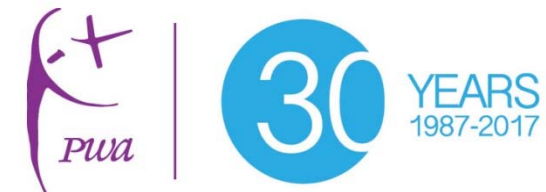
Realize

Soo Chan Carusone

Casey House

YMCA Staff – Community Advisory Committee

Ivan Ilic



St. Michael's

Inspired Care.
Inspiring Science.



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Thank you!



kelly.obrien@utoronto.ca

rachel.aubry@utoronto.ca



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